SAND AND GRAVEL RESOURCES OF ST. MARY'S COUNTY, MARYLAND

By

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Introduction

This map shows past and present mining operations and areas of potential gravel resources in St. Mary's County. Historically, limited quantities of brick clay and marl have been produced but are not considered viable resources today. Some of the expanding clays of the St. Mary's Formation may be a future resource for lightweight aggregate.

Sand and gravel are at present the county's only mineral resource. Because the county is located at a considerable distance from the major population centers, most of the material is used locally with the exception of that produced by Base Company and Maryland Rock Industries. Much of their material is barged up the Potomac River. The gravels in St. Mary's County tend to be finer than those of Charles County to the Northwest. In most pits 90% of the material will pass 16mm.

The sand and gravel industry has grown from one operation in 1971 to 16 in 1986. At present there are 22 active pits and 3 gravel wash plants. Production from St. Mary's County in 1985 amounted to 1,500,000 tons.

Approximately 556 acres have been disturbed by mining of which about 42% have been reclaimed. Numerous small pits, some not found and some obliterate by time, are not reflected in these figures.

The following chart gives a summary of the disturbed land in 1986.

Inactive and Abandoned Acreage	*Reclaimed Acreage*	*Working Acreage*	*Total Acreage*
263	*231*	*62*	*556*

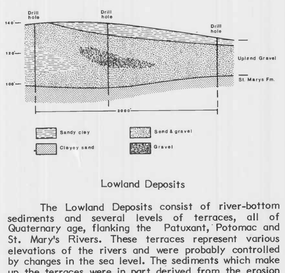
Acreage data was complied from surface mining permits, field investigations, aerial-photographs, and information furnished by various sand and gravel operators.

Upland Deposits

The Upland Deposits in St. Mary's County consist generally of those sand and gravel deposits which lie above the 90 foot elevation. They form a veneer of clastics across the disected uplands and are made up of discontinuous lenses of sand, gravel, sandy clay and clay. In the southern portion of the county the Upland Deposits are intersected by the Lowland Deposits making individual identification difficult. In addition, both the Upland and Lowland gravels occur as channel deposits in places. Consequently, some of the sand and gravel formerly mapped as Upland Deposits have been re-assigned by McCartan to a more recent unit and are here included with the Lowland Deposits. The sand and gravel portion of the Upland Deposits can be as much as 30 feet thick and is usually capped by a loam member which can be as much as 25 feet thick. These units are late Tertiary in age.

During the course of this investigation 55 exposures and 218 drill hole logs were examined. Using sand and gravel thickness from these sources, an attempt was made to delineate those areas in which economic sand and gravel within the Upland Deposits are most likely to occur. An arbitrary lower limit was made at 10 feet and all areas in which the sand and gravel portion of the section is expected to be less than 10 feet are shaded. No attempt has been made to examine quality or overburden thickness. The information on this map should be used with great caution because gravel deposits commonly change in thickness over short distances, and in some cases gravels of less than 10 feet thickness can be mined. Specific site investigations must be made before any actual reserve estimates or economic projections can be made.

The following cross-section from a site west of Leonardtown serves to illustrate both the lateral and vertical facies changes which can occur over relatively short distances.



Lowland Deposits

The Lowland Deposits consist of river-bottom sediments and several levels of terraces, all of Quaternary age, flanking the Patuxant, Potomac and St. Mary's Rivers. These terraces represent various elevations of the rivers and were probably controlled by changes in the sea level. The sediments which make up the terraces were in part derived from the erosion of the Upland Deposits. These gravels tend to be of less lateral extent than the Upland Deposits but in St. Mary's County they account for most of the gravel production, particularly in the Leonardtown-Lexington Park area. The gravels considered as Lowland Deposits here tend to be somewhat coarser than those of the Upland elsewhere in the county. Of the county's 22 active gravel pits, 13 are located in the Lowland Deposits. These deposits indicated on the map consist of those areas which, either through pits or drill holes, are known to contain at least minor amounts of gravel.

Resource Pre-emption

Other factors not considered here influence economic viability in certain areas of both the Upland and Lowland Deposits. The most important of these factors is the availability of land for mining. Many areas of potential gravel bearing land have been pre-empted by subdivision. Useable gravel resources are therefore not as extensive as the map might at first indicate.

ACTIVE OPERATION

1.	AB&H Excavating	Gravel pit
2.	A&B Company Ltd.	Gravel pit
3.	A&B Company Ltd.	Gravel pit
4.	Adams Brothers Excavating	Gravel pit
5.	Arandel Asphalt Products Inc.	Gravel pit
6.	Base Company	Gravel pit
7.	Base Company	Gravel wash plant
8.	Bean, Jimmy, Excavating Inc.	Gravel pit
9.	Charles County Sand and Gravel	Gravel pit
10.	Ernshaw, Robert L.	Gravel pit
11.	Hills, James L.	Gravel pit
12.	Insley Construction Co.	Gravel pit
13.	J&W Construction Co.	Gravel pit
14.	Leonardtown Sand & Gravel Co.	Gravel pit
15.	Leonasrdtown Sand/Gravel Co.	Gravel wash plant
16.	Maryland Rock Industries Inc.	Gravel pit
17.	Maryland Rock Industries Inc.	Gravel pit
18.	Maryland Rock Industries Inc.	Gravel wash plant
19.	Mayjack Inc.	Gravel pit
20.	Millison, J. Lawrence	Gravel pit
21.	William Wallace Abel	Gravel pit
22.	Woodburn, Raymond	Gravel pit
23.	Woodburn, Raymond	Gravel pit
24.	Woodburn, Raymond	Gravel pit
25.	Woodburn, Raymond	Gravel pit

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MAP SYMBOLS

- Sand and Gravel, sand, or borrow pit
- Former diatomite operation
- Boundary of larger operation
- 12 Active operation, described in text
- Areas of sand and gravel expected to be less than 10' thick
- Areas of potential Upland sand and gravel resources
- Areas of potential Lowland sand and gravel resources

Scale 1:62500

1 1/2 0 1 2 3 4 Miles

1 1/2 0 1 2 3 4 5 Kilometers

Contour interval 20 feet

Numbered ticks indicate the 10,000 foot Maryland State Grid

The last three digits of the grid numbers are omitted

Datum is mean sea level

Base Map, St. Mary's County Topographic Map

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Copies of this map may be purchased from the Maryland Geological Survey, 2300 St. Paul Street, Baltimore, Maryland 21218.